

## A SPURLESS FORM OF *AQUILEGIA CANADENSIS* L.

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An area with great diversity of habitat and supporting a large population of columbines has been noted in an extensive juniper pasture in East Deerfield, Massachusetts. In May, 1962, I observed *Aquilegia canadensis* forma *flaviflora* Britton ex House in the pasture, and in 1963 I collected the salmon colored, forma *Phippenii* Munz. Further it was found that columbines from the area attained markedly different heights when transplanted into a relatively uniform home garden.

In May, 1964, I again visited the Deerfield pasture and found a plant whose flowers were completely spurless. Munz (1946) reported that: "Plants with spurless flowers have been found in Boylston, Massachusetts, by school children, May 14, 1913, and at St. Johnsbury, Vermont, May 20, 1896, *Francis P. Perry*." Since spurless forms of the red columbine have been noted at least twice previously in New England it appears reasonable to designate this plant as a new form.

*Aquilegia canadensis* var. *canadensis* forma ***ecalcarata***, Livingston forma nov. Similar to *Aquilegia canadensis* L. proper with the following exceptions: Flowers pendant; petals yellow, 7-9 mm. long, 4-5 mm. wide, oblong-obtuse, spurless, spur replaced with small cupule near base, cupule 1.5-2 mm. deep, interior red; stamens about 1 cm. long, exceeding the twisted styles; basal leaves mostly biternate, deep green and glabrous above, light green and glaucous beneath, usually with node-like swellings at or below mid petiole.

Forma a varietate typica differens his sequentibus: Flores pendent; petala lutea, 7-9 mm long., 4-5 mm. lat., oblonga-obtusa, sine calcari, pro quo cupula parva prope basim substituta est, cupula 1.5-2 mm. profundite, intra rubra; stamina c. 1 cm. long., stylos tortos excedentia; folia basalia plerumque biternata, maxime viridia glabraque supra, dilute viridia glaucaque infra, inflatione nodiformi ad aut infra partem petiolo mediam plerumque praedita.



Figure 1. *Aquilegia canadensis* f. *ecalcarata*. Habit, flower, and all parts except staminodia  $2/3$  X; staminodia  $1\ 1/3$  X.

TYPE in the Herbarium of the University of Massachusetts, collected in East Deerfield, Hampshire County, Massachusetts, adjacent to exposed field stone in rocky pasture, about  $\frac{1}{4}$  mile west of River Road,  $1\frac{1}{2}$  miles north of the Sunderland bridge where it crosses the Connecticut River, *Livingstone* 3291. Original plant collected May 20, 1964, and propagated vegetatively in greenhouse from vegetative offshoots. Type is original plant. One clonal offshoot transplanted back to original site, June, 1965, another retained in home garden as source of seed and to provide additional clonal material.

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LITERATURE CITED

- MUNZ, PHILIP A. 1946. *Aquilegia* The cultivated and wild columbines. *Gentes Herbarum* Vol. 7, Fasc. 1: 1-150.